



Overview of the First Quarter 2020 Surveillance and Maintenance Report for the Rocky Flats Site, Colorado

January-March 2020

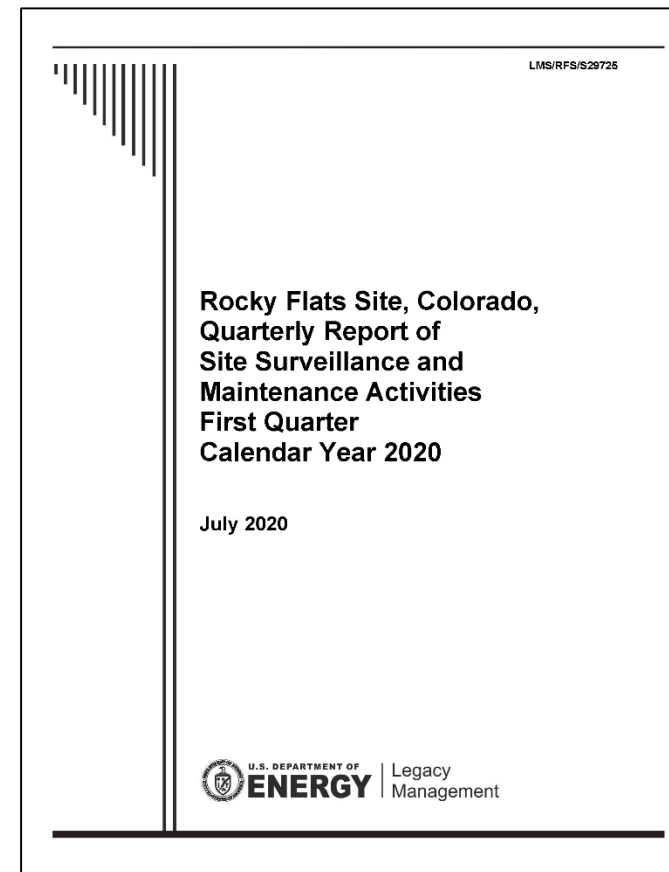
COVID-19 Minimum Safe Operations

- The Office of Legacy Management maximized telework on March 16
- Minimum Safe protocols began March 26, reducing some field operations
- All surface water and groundwater monitoring took place as required by RFMLA
- Groundwater treatment systems functioned as normal
- The Original Landfill maintenance project continued as scheduled following Centers for Disease Control and Prevention (CDC) guidelines



Quarterly Monitoring and Reporting

- Quarterly reports are required under the *Rocky Flats Legacy Management Agreement* (RFLMA) to document that the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) remedy continues to provide effective protection
- Components of the remedy for Rocky Flats include:
 - Maintain two landfill covers
 - Maintain three groundwater treatment systems
 - Monitor surface water and groundwater
 - Maintain physical controls
 - Signage
 - Access restriction



Quarterly Monitoring and Reporting (continued)

- Components of the remedy for Rocky Flats include (continued):
 - Enforce institutional controls
 - No occupied building construction
 - Excavation and soil-disturbance restrictions
 - No surface water consumption or agricultural use
 - No groundwater wells, except for monitoring
 - Landfill covers and engineered remedy components protection





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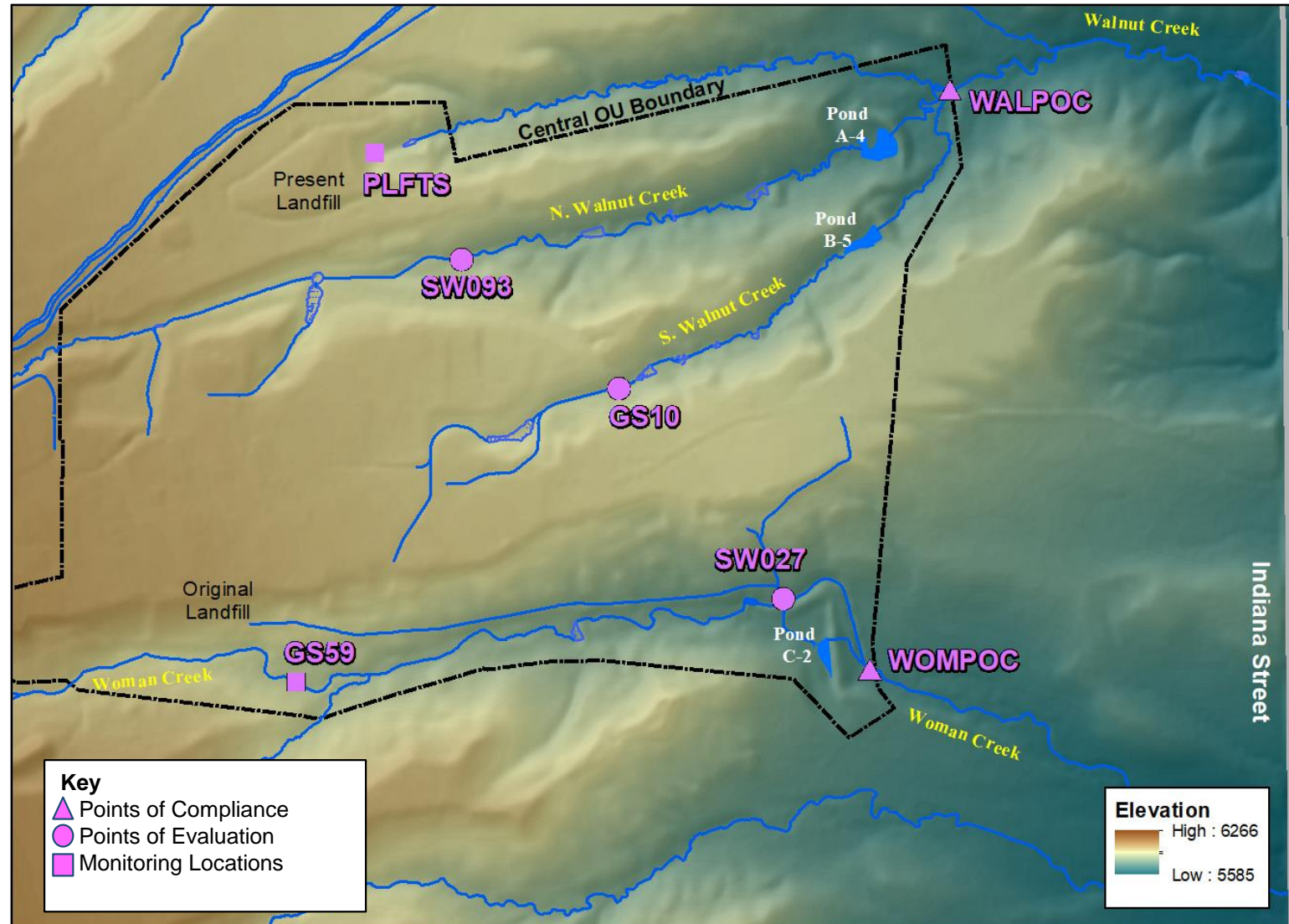
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Surface Water Monitoring

First Quarter 2020



Select RFLMA Surface Water Monitoring Locations



Original Landfill Performance Monitoring

- Original Landfill (OLF) – location GS59
 - Routine surface water sampling in Woman Creek, downstream of the OLF (GS59), during the first quarter of 2020 showed mean concentrations for all analytes below applicable RFLMA water quality standards



Present Landfill Performance Monitoring

- Present Landfill Treatment System (PLFTS) — location PLFSYSEFF
 - During the first quarter of 2020 at the system effluent, the arsenic concentration was 29 µg/L, exceeding the standard of 10 µg/L
 - According to RFLMA protocols, sampling frequency was increased to monthly
 - For the subsequent monthly sample, the arsenic concentration was 4.8 µg/L, below the 10 µg/L standard
 - After the subsequent monthly sample was evaluated, sampling frequency returned to quarterly
 - Quarterly concentrations for all other analytes were below applicable RFLMA standards



Point of Evaluation Monitoring (continued)

- No Point of Evaluation (POE) analyte concentrations were reportable during the first quarter of 2020



Point of Compliance Monitoring

- No RFLMA Point of Compliance (POC) analyte concentrations were reportable during the first quarter of 2020



Questions?





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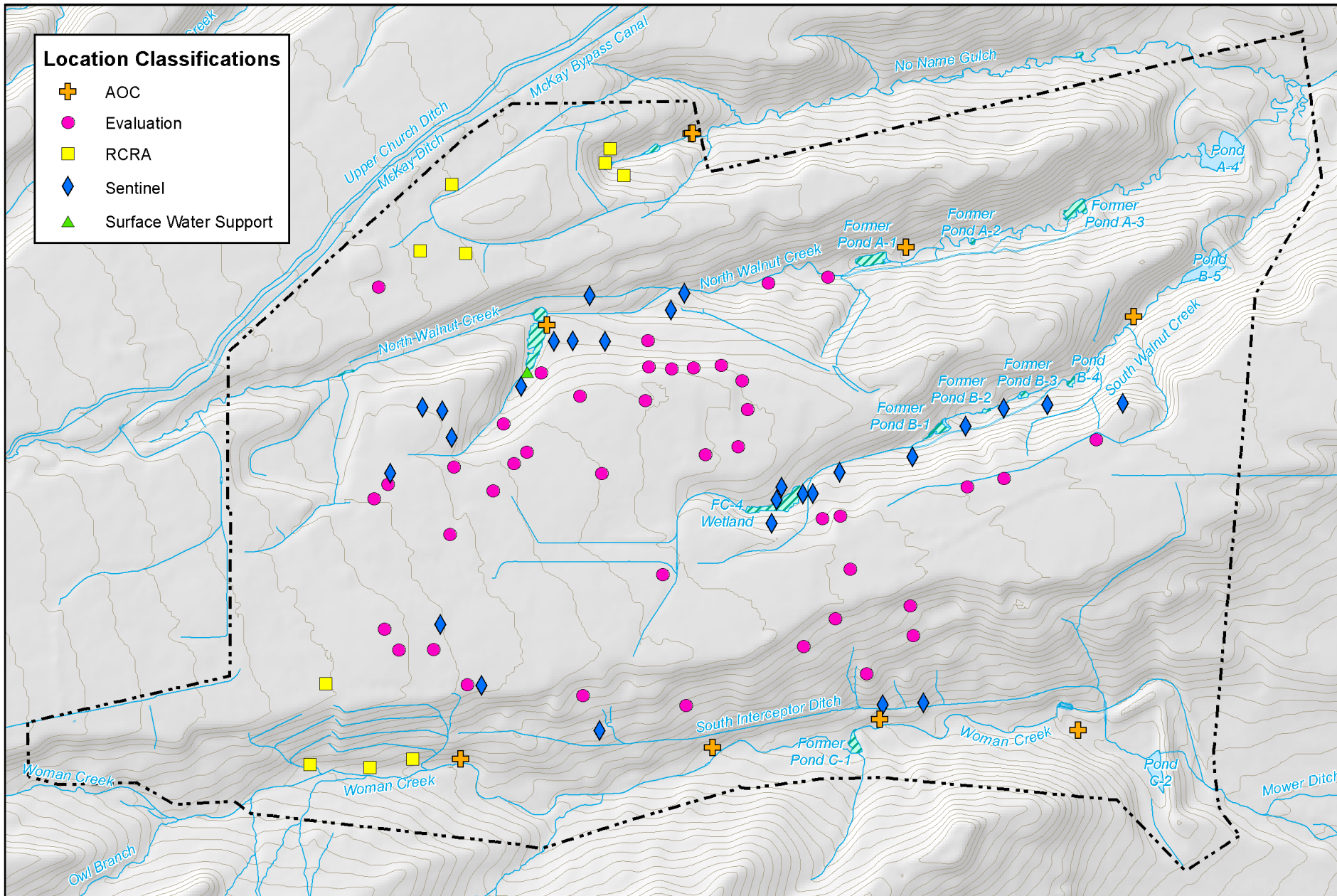
Groundwater Monitoring and Operations

First Quarter 2020

RFLMA Groundwater Monitoring Overview

- RFLMA monitoring network
 - 10 Resource Conservation and Recovery Act (RCRA) wells (quarterly)
 - Evaluate potential impacts from OLF and PLF
 - 9 Area of Concern (AOC) wells and one Surface Water Support location (semiannually)
 - Located in drainages downstream of contaminant plumes
 - Evaluate for plumes discharging to surface water
 - 27 Sentinel wells (semiannually)
 - Downgradient of treatment systems, edges of plumes, and in drainages
 - Look for plumes migrating to surface water and treatment system problems
 - 42 Evaluation wells (biennially)
 - Within plumes, near source areas, and interior of Central Operable Unit (COU)
 - Evaluate whether monitoring of an area or plume can cease
 - 9 treatment system locations (seven semiannually, two quarterly)



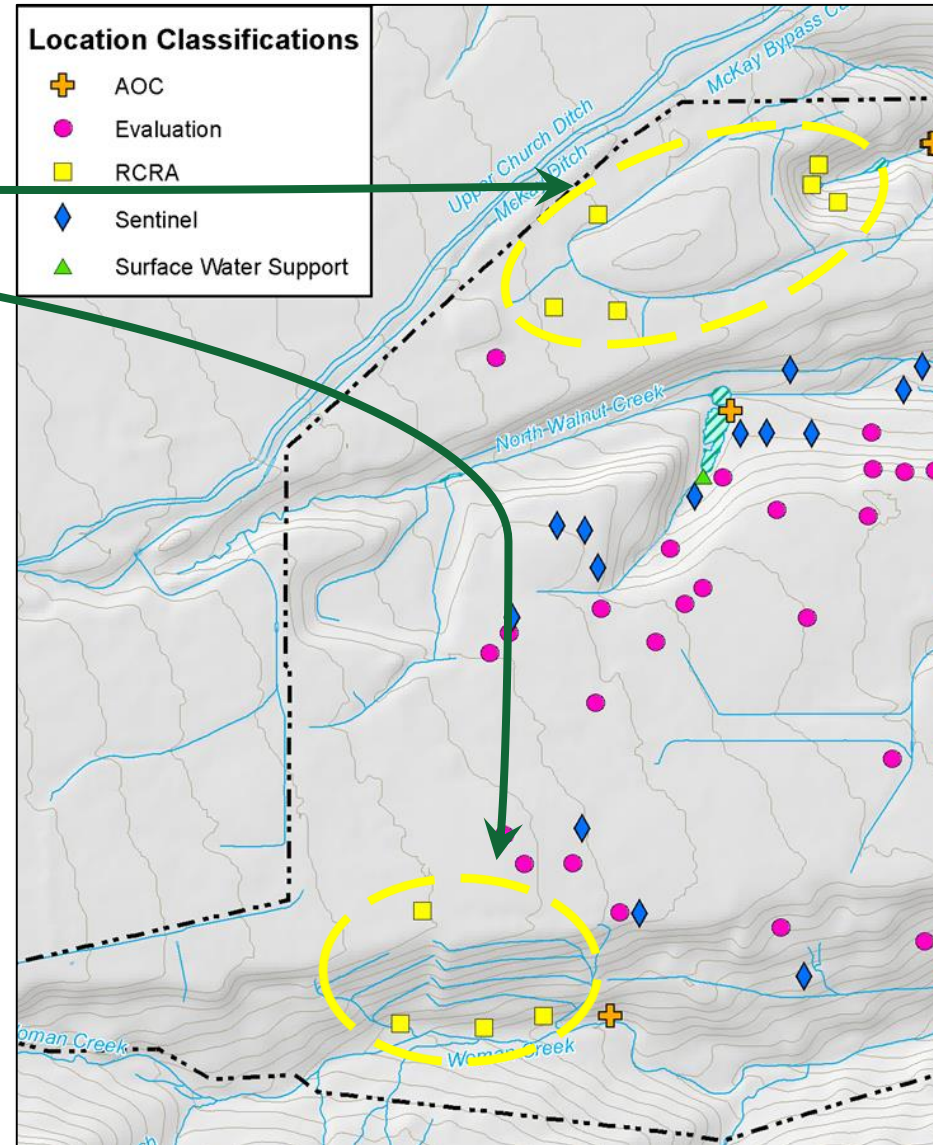


Groundwater treatment system locations omitted for clarity



RFLMA Monitoring During First Quarter 2020

- Sampled the 10 RCRA wells
 - PLF
 - OLF
- Results were generally consistent with previous data
 - Data will be evaluated as part of the 2020 annual report



Treatment System Activities

- East Trenches Plume Treatment System (ETPTS), Mound Site Plume Collection System (MSPCS), Solar Ponds Plume Treatment System (SPPTS), and PLFTS
 - Routine maintenance at all systems
- SPPTS
 - Treated water was not discharged for part of January and February
 - Pause in discharge led to water freezing in the effluent line
 - Flow was restored after the line was cleared
 - In the interim, treated water was held within the “Big Box” (treatment lagoon)



Questions?





Site Operations



Annual Inspection

- Scope: inspect the site and monitor for evidence of significant erosion and violation of institutional controls
- CY 2020 Annual Inspection was postponed due to restrictions under the DOE coronavirus Minimum Safe operational status
- Verified the restrictive notice for the COU remains in the Administrative Record and on file with Jefferson County (March 16)



Quarterly Sign Inspections

- RFLMA physical control
- Signs inspected on March 18, 2020
 - All signs in good condition and legible
 - Some DOE stickers replaced due to weathering

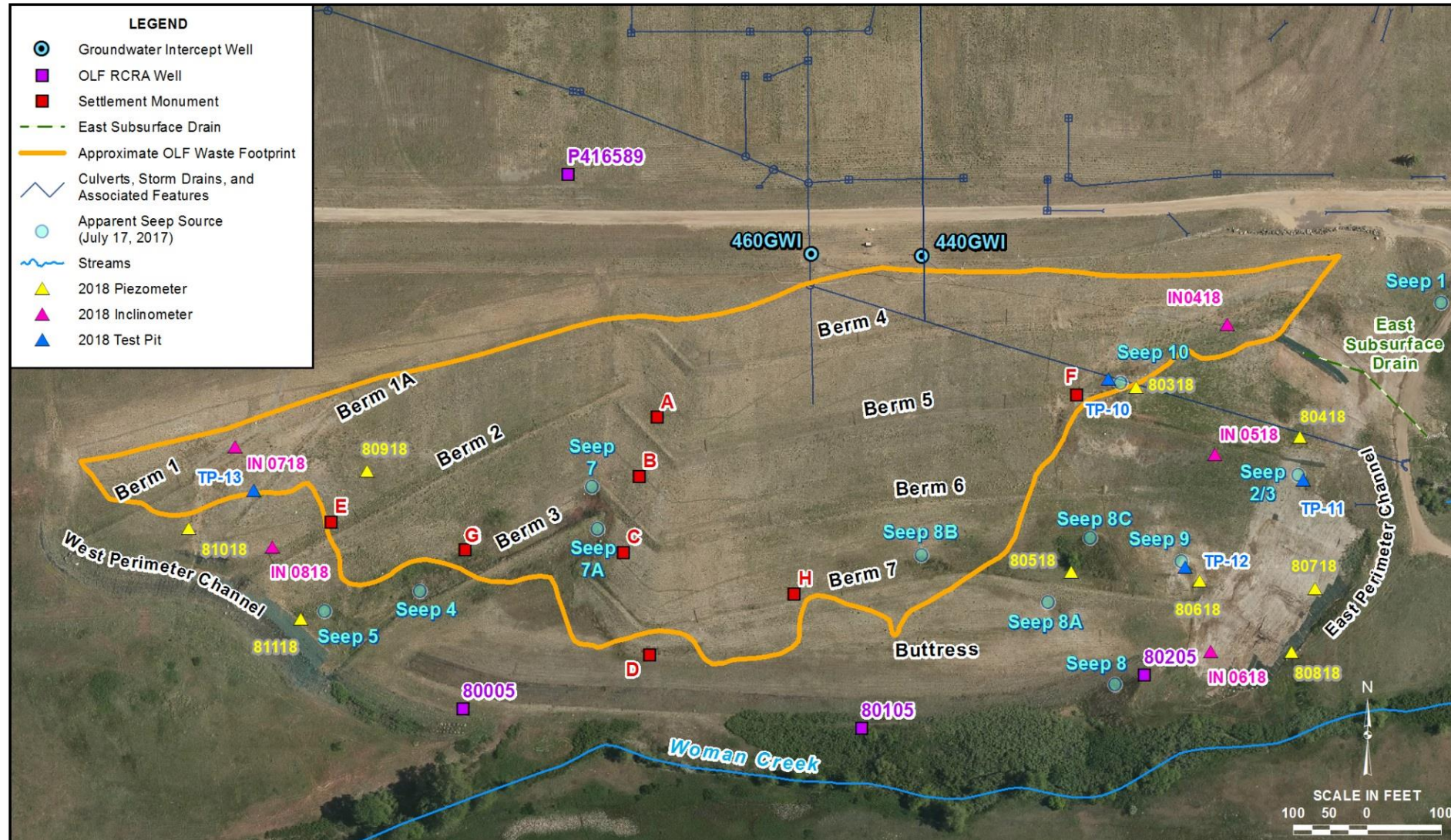


Original Landfill (OLF)

- Monthly and weather-related inspections
 - January 15, February 20, and March 18, 2020
 - Observed 5-foot-long and 3-inch-deep tension crack above berm 4 in January; addressed by subcontractor
 - Seep 2/3 excavated and Seep 8C partially covered during maintenance activities
- Surveyed settlement monuments on March 2, 2020
 - Vertical settling was within design limits
- Mobilization and site preparation for slope stabilization project in September
- Drilling progress in February was slowed by multiple snow events and periods with high winds
- By the end of the quarter, 212 of 267 tie-back anchors were installed, tested, and locked off
- East and West Interceptor Trenches neared completion



OLF (continued)



OLF (continued)

- East Subsurface Drain continues to function as designed
- Seep 10 siphon and Temporary groundwater intercept system offline during the first quarter
 - Maintenance activity in the area to render these systems obsolete



OLF (continued)



East hillside



Gravel stockpile north of landfill



East anchor row 2



Present Landfill (PLF)

- Performed quarterly inspection on March 3, 2020
- Landfill is in good condition; performed minor maintenance at the PLFTS outlet



Former Building Areas 371, 771, 881, and 991

- First quarter of CY 2020 inspection of Former Building Areas 371, 771, 881, and 991 was postponed due to restrictions under the coronavirus Min Safe operational status

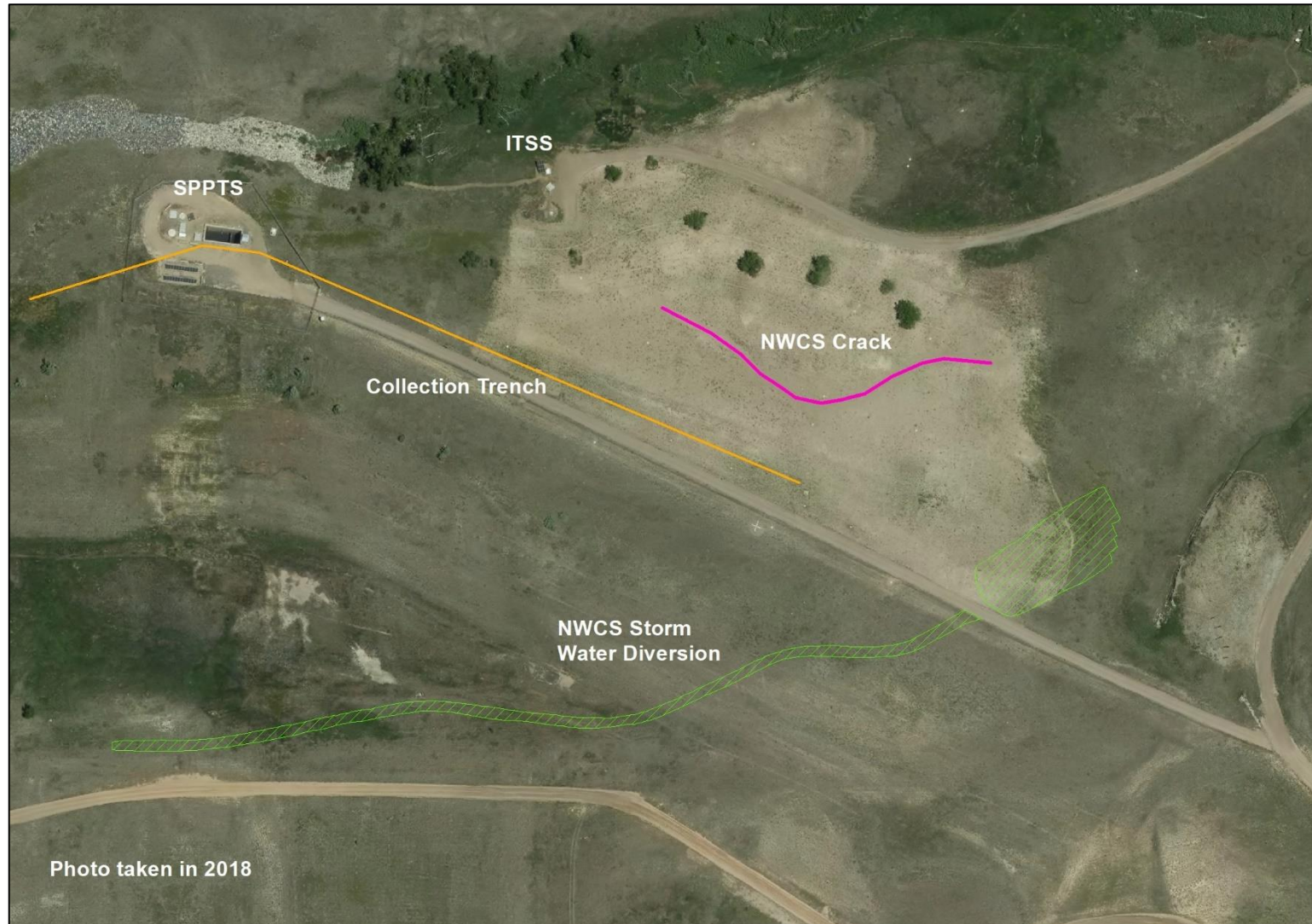


North Walnut Creek Slump

- Continued data collection from piezometers where possible
 - RFMLA monitoring points in this area are not impacted
- Slump monitoring points were surveyed on January 7, February 6, and March 2, 2020
 - Maximum movement since baseline (September 5, 2017) was approximately 2 1/2 feet vertically
 - Scarp crack largely remained closed due to elk traffic in the area; open 1/4 to 1/2 inch in places
 - Small cracking continued in the Interceptor Trench System Sump access road



North Walnut Creek Slump (continued)



Site Roads

- No maintenance was conducted during the first quarter
- Maintenance of site roads is being planned for October 2020



Questions?

